

REMARKS

Claims 1-11, 13-19, 21 and 22 were pending, with claims 12 and 20 having previously been canceled, without prejudice or disclaimer. By this Amendment, claims 1, 4, 8, 9, 11, 14, 18, 19 and 21 have been amended to clarify the claimed subject matter, claims 16 and 17 have been amended to depend from claim 11, and new claim 23 has been added. Claims 1-11, 13-19 and 21-23 would be pending upon entry of this Amendment, with claims 1, 11 and 21 being in independent form.

Claims 1-10, 21 and 22 were rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite.

By this Amendment, the application has been amended to address the formal matters referenced in the Office Action, as well as otherwise.

Withdrawal of the rejection under 35 U.S.C. §112 is respectfully requested.

Claims 1-11, 13-19, 21 and 22 were rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Wintermark (US 6,793,302) in view of Hossack (US 6,116,244).

Applicant respectfully submits that the present application is allowable over the cited art, for at least the reason that the cited art does NOT disclose or suggest the aspects of the present application of forming two or more functional images based on biological function data, forming a composite image by composing the tomogram and *a blended image obtained by composing two or more portion images extracted from the functional images, and displaying the tomogram and the blended image, overlapping each other, wherein the two or more portion images extracted from the functional images have different respective gradation colors, as compared to each other, and are overlapped in display.*

Such aspects are illustrated by way of example in demonstrative figures (A) through (C)

attached hereto as *Exhibit A*. In figure (A), three functional images (CBF, CBV and MTT) and a tomogram are displayed in respective (four) blocks. In figure (B), three portion images are extracted from the three functional images, respectively. The green portion image is extracted from the CBF (cerebral blood flow) image, the blue portion image is extracted from the CBV (cerebral blood volume) image, and the red portion image is extracted from the MTT (mean transit time) image. In figure (C), the green portion image, blue portion image and red portion image are combined into one blended image.

Such blended image of functional information, as illustrated in figure (C), makes it easier for the physician to diagnose brain condition. For example, the green color area shows penumbra that is reversible condition, and the blue color area shows infarcted condition. If the penumbra is large, the patient is reversible, but if the penumbra is small, the patient is irreversible.

None of the cited references disclose or suggest such a blended image composed from two or more color portion images from respective functional images of different respective colors.

Wintermark, as understood by applicant, proposes an approach for determining treatment for stroke, which includes obtaining measurements of the cerebral blood flow and cerebral blood volume of the brain of a stroke patient, determining ischemic areas of the brain where the ischemic areas comprise the measurements of cerebral blood flow which are less than a first value and creating a penumbra map of the ischemic areas of the brain using the measurements.

However, in Wintermark, the analyzed penumbra is displayed alone, without other functional information.

Wintermark says nothing regarding a blended image obtained by composing two or more

portion images extracted from the functional images, and displaying the tomogram and the blended image, overlapping each other, wherein the *two or more portion images extracted from the functional images have different respective gradation colors*, as compared to each other, and are overlapped in display.

Hossack, as understood by applicant, proposes an approach for three-dimensional (3D) imaging based on ultrasound data, wherein opacity level associated with each datum in a 3D volume data set is controlled as a function of at least one Doppler parameter, such as variance.

Hossack, like Wintermark, is silent as to a blended image obtained by composing two or more portion images extracted from the functional images, and displaying the tomogram and the blended image, overlapping each other, wherein the two or more portion images extracted from the functional images have different respective gradation colors, as compared to each other, and are overlapped in display.

Applicant submits that the cited art, even when considered along with common sense and common knowledge to one skilled in the art, does *NOT* render unpatentable, the aforementioned aspects of the present application.

Accordingly, applicant respectfully submits that independent claims 1, 11 and 21, and the claims depending therefrom, are allowable over the cited art.

In view of the remarks hereinabove, applicant submits that the application is now allowable, and earnestly solicits the allowance of the application.

However, if the Examiner can suggest an amendment that would advance this application to condition for allowance, the Examiner is respectfully requested to call the undersigned attorney.

If a petition for an extension of time is required to make this response timely, this paper

should be considered to be such a petition. The Patent Office is hereby authorized to charge any required fees in connection with this amendment, and to credit any overpayment, to our Deposit Account No. 03-3125.

Respectfully submitted,



---

Paul Teng, Reg. No. 40,837  
Attorney for Applicant  
COOPER & DUNHAM LLP  
30 Rockefeller Plaza, 20<sup>th</sup> Floor  
New York, New York 10112  
Tel.: (212) 278-0400

# **EXHIBIT A**

to

**AMENDMENT**

(U.S. Application No. 10/551,885)

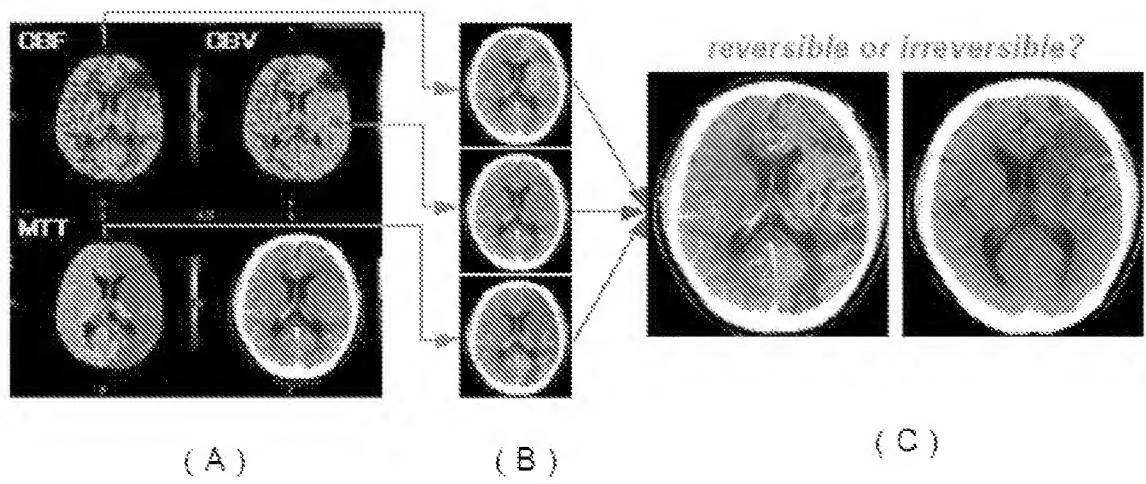


Exhibit A to Amendment (Application No. 10/551,885)